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Project Manager

March 2, 2015

Ms. Verneta Simon
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77 West Jackson Boulevard
Chicago, Illinois 60604

**Subject: Letter Report – Mozart Street Mercury Spill
EPA Contract No. EP-S5-13-01
Technical Direction Document No. S05-0001-1412-006
Document Tracking No. 0119**

Dear Ms. Simon:

Tetra Tech Inc. (Tetra Tech) is submitting the Letter Report for the Mozart Street Mercury Spill. This Letter Report summarizes removal action activities conducted from December 12 through December 31, 2014, and on February 10, 2015. If you have any questions regarding this report, please call me at (312) 201-7479.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert Kondreck'.

Robert Kondreck
Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager
TDD File

**LETTER REPORT
MOZART STREET MERCURY SPILL
CHICAGO, COOK COUNTY, ILLINOIS**

Prepared for

U.S. Environmental Protection Agency
Emergency Response Branch
Region 5
77 West Jackson Boulevard
Chicago, IL 60604

Submitted by

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Prepared by



Robert Kondreck
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Approved by



Kevin Scott
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (USEPA) tasked Tetra Tech Inc. (Tetra Tech), under Superfund Technical Assessment and Response Team (START) Contract EP-S5-13-01, Technical Direction Document (TDD) No. S05-0001-1412-006, to perform emergency response activities associated with a mercury release at Clemente High School in Chicago, Illinois. USEPA's involvement in the Clemente High School mercury release resulted because individuals brought mercury to their residences or to an after-school activity.

A total of four properties were affected as part of the release and are collectively referred to as the Mozart Street Mercury Spill. The four City of Chicago properties consist of a church at W North Ave (San Lucas Church) and three residential apartments at N Mozart St, S Central Park Ave, and N Artesian Ave. Mercury vapors in the breathing zone at all locations were initially over the joint USEPA and Agency for Toxic Substances and Disease Registry (ATSDR) recommended action level of 1,000 nanograms per cubic meters (ng/m³) normal occupancy for the most sensitive person (ATSDR 2012). Site activities were conducted from December 12 through 31, 2014, and on February 10, 2015.

Section 2.0 of this report discusses the general background for USEPA's involvement. Section 3.0 describes methods used to conduct the mercury screening, and Section 4.0 describes personal protective equipment (PPE) used and the action levels. Section 5.0 discusses the mercury release at San Lucas Church located on W North Ave in Chicago, Illinois. Section 6.0 discusses the mercury release at the residence located on N Mozart St, Chicago, Illinois. Section 7.0 discusses the mercury release at S Central Park Ave, Chicago, Illinois. Section 8.0 discusses the mercury release on N Artesian Ave, Chicago, Illinois. Section 9.0 provides a summary of investigations and Section 10.0 provides references used in this report.

Site figures showing the layout of each property are provided in Appendix A. Tables with compiled mercury screening results are provided in Appendix B. Appendix C contains START field notes and field data sheets used to record mercury concentrations in bags and throughout the house. Appendix D contains selected photographs of the investigation and removal action. Appendix E is USEPA's pollution/situation reports (POLREP) that were filed throughout the project. Appendix F contains the waste manifest for mercury impacted waste.

2.0 BACKGROUND

The City of Chicago Department of Public Health (CDPH) requested USEPA assistance on December 12, 2014, in response to a mercury release at Clemente High School, located at 1147 North Western Avenue, Chicago, Cook County, Illinois. The actual release may have occurred on December 9, 2014, in the womens restroom and in the library of Clemente High School, according to National Response Center (NRC) Report #1103283 (NRC 2014). However, city officials received notification of the mercury spill on December 12, 2014. A reported 13 students made contact with the mercury, and two students and one chaperone were transported to the local hospital as a result. The Chicago Fire Department, CDPH, Chicago Public Schools (CPS), and local government contractors GSG Consultants (GSG) and Carnow Conibear (CCA) were involved in mercury remediation efforts and individual interviews prior to USEPA's involvement.

USEPA responded to the CDPH request for assistance and mobilized an on-scene coordinator (OSC) and START to Clemente High School around 1:30 p.m. on December 12, 2014. Respondents included USEPA on-scene coordinator (OSC) Stavros Emmanouil and START contractors Robert Kondreck and Aaron Stevens. Once at the Clemente High School, CDPH and CPS officials informed the OSC and START personnel that several off-site locations may be affected by the individual who brought the mercury to the school. While representatives were at Clemente High School, the CDPH contacted the sister of the individual with the mercury. The sister revealed that the mercury was also taken to several other properties: an after school program (boys and girls club) located in the basement of San Lucas United Church of Christ (San Lucas) on W North Ave in Chicago, Illinois; and the individual's residence on Mozart St, Chicago, Illinois; as well as to Clemente High School within the past two weeks. The origin of the mercury was unknown at the time. USEPA OSC, START, and CDPH mobilized to San Lucas and the residence to measure mercury vapor concentrations after the phone call with the sister.

On December 19, 2014, USEPA received a phone call from CDPH requesting assistance for two additional residential mercury spill locations (S Central Park, Chicago, IL and N Artesian Ave, Chicago, IL) associated with the December 12, 2014, Clemente High School mercury release (the Mozart Street Mercury Spill). The CDPH indicated these locations have or previously contained the mercury and the owner or tenant was concerned about potential health effects caused by the mercury. USEPA OSC, START, and CDPH mobilized to both locations to determine mercury vapor concentrations after the phone call from CDPH. According to the tenants at S Central Park and N Artesian Ave, the mercury was spilled at their residence more than a year ago.

3.0 MERCURY INVESTIGATION METHODS

START performed the Mozart Street mercury investigations using a Lumex 915M Mercury Analyzer. A USEPA-owned Lumex 915+ was used at the N Artesian residence while simultaneous activities were occurring at the S Central Ave residence. The Lumex 915M is capable of detecting mercury from 0.5 ng/m³ to 2,000,000 ng/m³, depending on the operation mode (Ohio Lumex 2013). The Lumex was calibrated per the manufacturer's specification at the start of each sampling day and recorded in the field logbook (see Appendix C).

START screened mercury vapors in the ambient air and at floor level in each room of the affected property. A breathing zone measurement was collected immediately after personnel entered the building. Breathing zone concentrations were recorded in the field logbook or field data sheets (see Appendix C) as a 10-second average. This average was calculated and displayed by the Lumex internal computer. Mercury floor screening involved placing the hose (sampling intake) over cracks in the flooring or other locations where mercury may become lodged. The hose from the Lumex was moved across the surface in a serpentine fashion to measure elevated mercury concentrations. The mercury vapor concentration recorded was established when the concentration ceased increasing and started to decrease. Screening areas were biased toward locations identified by the occupants to be the source of mercury exposure.

4.0 ACTION LEVELS AND PPE

Action levels were based off the Joint USEPA and ATSDR Chemical-Specific Health Consultation for Action Levels for Elemental Mercury Spills (ATSDR 2012). Specific action levels include isolation or evacuation of residence if mercury concentrations in the breathing zone are above 10,000 ng/m³ and unrestricted residential use for mercury concentrations below 1,000 ng/m³. The action level for clothing and item removal from the residence was 6,000 ng/m³. However, based on the Emergency and Rapid Response Services (ERRS) contractor experience and the USEPA Region 5 Mercury Response Guidebook, this level was raised to 10,000 ng/m³ for residences on N Artesian and S Central Park (USEPA 2004).

A breathing zone measurement above 15,000 ng/m³ was the site-specific action level for personnel to upgrade from personal protective equipment (PPE) Level D to PPE Level C. This level was developed by Tetra Tech START using a level less than the threshold limit value (TLV) for mercury. ERRS contractors conducted mercury cleanup in PPE C because of the potential for contact with elemental mercury. Site activities were conducted in modified Level D, which included Tyvek booties and nitrile gloves.

5.0 W NORTH AVE - SAN LUCAS MERCURY INVESTIGATION

The San Lucas mercury investigation was conducted at the San Lucas church located on W North Ave between December 12 and 15, 2014, using screening methods described in Section 3.0. San Lucas consists of an approximate 600-square-foot worship area with pews and an altar on the first floor, and an approximate 400-square-foot meeting area and cafeteria (as used as a meeting place for a boys and girls club) in the basement (see Figure 1 in Appendix A). The building is thought to have been built in 1914. The building is a total of three stories above grade; however, mercury exposure reportedly occurred only on the first floor and basement levels. Elemental mercury was allegedly handled near the northern tables 1 to 2 weeks before USEPA's involvement.

The initial breathing zone readings were above the USEPA and ATSDR action level 1,000 ng/m³ for normal occupancy for the most sensitive person. To remediate the building, USEPA recommended an application of dry sulfur on areas with elevated mercury concentrations and then cleaned using a wet mop and dried. These actions were carried out by San Lucas staff. The investigation was completed on December 15, 2014, after mercury vapor readings in the breathing zone and floor and table were below 1,000 ng/m³. See Table 1 in Appendix B for mercury screening results. No elementary mercury was recovered during the investigation.

5.1 DECEMBER 12, 2014

OSC Emmanouil, START contractors Kondreck and Stevens, and CDPH officials Terry Sheahan, Martin Garcia, and Dr. Cortland Lohff arrived at San Lucas at approximately 2:30 p.m. to investigate the mercury release. The San Lucas staff indicated the release most likely occurred in the basement of the church where an individual with mercury attended a boys and girls club. The quantity of elemental mercury brought into the San Lucas basement is unknown. The individual reportedly handled the elemental mercury with other attendees.

START screened the worship area on the first floor then proceeded to the basement, where the mercury was handled. The highest mercury concentrations in the worship area were 1,160 ng/m³ in the breathing zone and up to 4,043 ng/m³ on the floor. START proceeded to the basement to screen the cafeteria, hallway, men's bathroom, and women's bathroom. The highest mercury concentrations in the basement were 1,253 ng/m³ in the breathing zone and 5,596 ng/m³ on the floor.

Mercury concentrations in the breathing zone were above the USEPA and ATSDR recommended action level of 1,000 ng/m³. Therefore, USEPA suggested limited use of the worship area and basement. USEPA also suggested heating the area and then venting the rooms in an attempt to decrease mercury vapors. The areas were heated by increasing the boiler temperature to volatilize the mercury and then opening windows to allow mercury vapors to be vented outside.

5.2 DECEMBER 13, 2014

OSC Emmanouil and START contractors Kondreck and Stevens met with San Lucas staff at approximately 8:00 a.m. to evaluate changes in mercury concentrations caused by heating and venting. Mercury vapors decreased in the breathing zone to 182 ng/m³ and 821 ng/m³ on the floor in the worship area. In the basement, mercury vapors decreased to 302 ng/m³ in the breathing zone and 4,334 ng/m³ on the countertop. USEPA suggested remediation by applying sulfur on the floors of the basement in an attempt to decrease mercury concentrations.

5.3 DECEMBER 15, 2014

OSC Emmanouil and START contractors Kondreck and Stevens met with San Lucas staff at approximately 11:00 a.m. to screen for mercury vapors. Mercury vapors decreased in the worship area breathing zone to 154 ng/m³ and 194 ng/m³ on the floor in the worship area. When START arrived, the San Lucas staff was finished removing the sulfur and was washing and drying the floors in the basement. After the floors were dried in the basement, mercury vapors were 326 ng/m³ in the breathing zone and 965 ng/m³ on the countertop. USEPA recommended full use of the facilities since mercury vapor concentrations were below 1,000 ng/m³. No elemental mercury was recovered during the investigation.

6.0 N MOZART ST – RESIDENTIAL MERCURY REMOVAL

The N Mozart St investigation was conducted between December 12 through 31, 2014, and on February 10, 2015. The N Mozart property consist of a three-story building and basement; however, mercury was handled only in the owner-occupied first unit, consisting of the first floor and basement (see Figure 2 in Appendix A). The building is thought to have been built in 1888. Elemental mercury was allegedly handled in the kitchen, living room, and basement of that unit 1 to 2 weeks before USEPA's involvement, according to the residents. The renter on the third floor requested mercury vapor screening on December 19, 2014, after talking with the owner.

The initial breathing zone readings collected on December 12, 2014, were above the USEPA and ATSDR/action level 1,000 ng/m³ for normal occupancy for the most sensitive person. Mercury concentrations were reduced by using a mercury vacuum, applying HgX[®], and cleaning or mopping up the HgX[®] in areas with elevated readings. HgX[®] is a sulfur-based mercury remediation powder that clumps mercury together for easier removal. Residual mercury vapors were further reduced by heating the house above normal temperatures and then venting the indoor air outside. Cracks in the laundry room around the washer/dryer concrete platform could not be remediated below 1,000 ng/m³; therefore, the cracks were sealed with caulk. The laundry room drain could not be sealed because the drain is in use.

The investigation was completed on February 10, 2015, after mercury vapor readings in the breathing zone and floor were below 1,000 ng/m³ under normal temperatures. See Table 2 for Unit #1 (first floor and basement level) and Table 3 (Unit #3 third floor) in Appendix B for mercury screening results. No elemental mercury was recovered during the investigation.

6.1 DECEMBER 12, 2014

OSC Emmanouil, START contractors Kondreck and Stevens, and CDPH officials Sheahan, Garcia, and Dr. Lohff mobilized to N Mozart St at approximately 4:00 p.m. to investigate a potential mercury release caused by a resident who had handled mercury within the residence. When personnel arrived, the property owner verbally agreed that START could screen the first floor and basement of the residence for mercury vapors. The highest mercury vapors on the first floor were observed in the living room, with mercury concentrations of 11,001 ng/m³ in the breathing zone and 17,000 ng/m³ on the floor. The highest mercury vapors in the basement were observed in the laundry room, with mercury vapor concentrations of 11,556 ng/m³ in the breathing zone and 18,881 ng/m³ on the floor. The USEPA and ATSDR recommended action level for isolation of contamination from/evacuation of residence is 10,000 ng/m³.

USEPA suggested the property owner call the insurance company to determine if the mercury spill would be covered by the homeowner's insurance policy and if there were any alternative housing options. The insurance company verbally denied the mercury spill claim.

The resident agreed to relocate to a relative's residence and began preparing for departure. The resident placed personal belongings inside plastic bags for mercury screening by START. USEPA recommended clothing and items with headspace readings above 6,000 ng/m³ remain in the residence for further remediation or disposal (ATSDR 2012). START also screened the vehicle before the resident departed. Mercury vapors in the vehicle were below 1,000 ng/m³ in the breathing zone, on the seat cushions, and on the floor.

6.2 DECEMBER 13, 2014

OSC Emmanouil and START contractors Kondreck and Stevens met with the son of the property owner to screen shoes and clothes for mercury vapors at approximately 11:00 a.m. before they were removed from the residence. No clothes or shoes contained mercury vapors above the USEPA and ATSDR recommended action level of 6,000 ng/m³. USEPA and START departed after photographs had been taken documenting the condition of the residence.

6.3 DECEMBER 15, 2014

OSC Emmanouil, START contractors Kondreck and Stevens, and CDPH Garcia met with the property owner to receive paperwork at approximately 10:00 a.m. The property owner presented a denial of insurance claim letter from the insurance company and signed an access agreement allowing for remediation of the residence.

6.4 DECEMBER 16, 2014

OSC Emmanouil, START contractors Kondreck and Stevens, and three ERRS contractors met with the property owner at approximately 9:00 a.m. to begin mercury remediation at the residence. The property owner had to attend to a family emergency and therefore did not allow for remediation to begin.

6.5 DECEMBER 17, 2014

OSC Emmanouil, START contractors Kondreck and Stevens, and three ERRS contractors met with the property owner at approximately 9:00 a.m. to begin mercury remediation at the residence. The property owner had opened up all the windows to allow for venting; therefore, the house was below normal

occupancy temperatures. The highest mercury vapors on the first floor were observed in the kitchen, with mercury concentrations of 389 ng/m³ in the breathing zone and 732 ng/m³ on the floor. The highest mercury vapors in the basement were observed in the laundry room, with mercury vapor concentrations of 789 ng/m³ in the breathing zone and 12,000 ng/m³ on the floor.

According to USEPA and ATSDR guidance, concentrations as low as 6,000 ng/m³ typically indicate that liquid mercury is present in a room (ATSDR 2012). Therefore, USEPA directed ERRS to use a mercury vacuum on the first-floor bathroom and kitchen (as a precautionary measure) and the basement laundry room in an attempt to remove potential mercury. Each room was then heated for more than an hour to volatile any mercury. Heating and venting occurred once on the first floor and once in the basement. After the mercury had volatilized, the rooms were vented by opening windows and blowing air out using fans. Mercury vapor readings were collected after venting ceased and the rooms were allowed to normalize to living conditions. ERRs applied HgX[®] to the floor or cracks in the floor on the first-floor bathroom, kitchen, living room, and dining room after increases in mercury concentrations. These areas were remediated with HgX[®] because of the elevated mercury readings after the heating and venting cycle.

6.6 DECEMBER 18, 2014

OSC Emmanouil, START contractor Kondreck, and three ERRS contractors met with the property owner at approximately 9:00 a.m. to begin mercury remediation at the residence. START collected a round of mercury vapor measurements throughout the house. Areas of elevated readings included the first-floor kitchen and the laundry room and west bedroom in the basement. These areas were washed using an HgX[®] solution and cleaned with damp towels. After cleaning, a round of heating and venting occurred on the first floor and basement.

The floor drain in the laundry room and cracks in the concrete around the concrete platform for the washer and dryer remained above 1,000 ng/m³. The cracks around the concrete platform were sealed using caulk after several attempts to remove potential mercury beads using a mercury vacuum and HgX[®] solution. The residual mercury concentrations were then below 1,000 ng/m³ in this area. Attempts to remediate the floor drain in the laundry room did not reduce concentrations to below 1,000 ng/m³. The floor drain could not be sealed because the resident uses this drain as a discharge for the bathroom sink and laundry machine.

START performed headspace readings on clothing and items that came in contact with the floor or were in areas with high mercury concentrations. Clothing and items with headspace readings above 6,000 ng/m³ were disposed of by ERRS. Large bags of clothing that were above this limit were separated in

smaller piles to be re-screened on December 19, 2014. START performed mercury screening on the third floor at the request of the third-floor tenant. The floor and breathing zone of each room was screened for mercury. Mercury vapors were below 1,000 ng/m³ (see Table 3 in Appendix B).

6.7 DECEMBER 19, 2014

OSC Emmanouil, START contractor Kondreck, and three ERRS contractors met with the property owner at approximately 10:45 a.m. to complete confirmation mercury screening of the residence. Mercury vapors in the breathing zone and floor were all below 1,000 ng/m³ (in the rooms that were not locked), with the exception of the drain in the laundry room. Mercury screening immediately above the drain was 1,625 ng/m³. This drain could not be sealed, as discussed in Section 6.6. Separated clothing from December 18, 2014, was screened and disposed of by ERRS if the concentration was above 6,000 ng/m³. Photographs were taken of all items discarded.

6.8 DECEMBER 30 AND 31, 2014

On December 30, 2014, OSC Verneta Simon and START contractor Kondreck were on site to screen mercury vapors in the laundry room drain. Additional screening was conducted to determine if mercury concentrations in the laundry drain decreased since December 19, 2014. Mercury vapor decreased in the breathing zone but remained elevated immediately above the drain at 2,248 ng/m³. The mercury vapor concentration 6 inches above the drain was 550 ng/m³ and the mercury concentration in the breathing zone was 291 ng/m³.

On December 31, 2014, OSC Ramon Mendoza and START contractor Kondreck were on site to screen mercury vapors in the laundry room drain. Mercury vapors in the drain decreased to an average of 1,084 ng/m³. The mercury concentration 6 inches above the drain was 830 ng/m³ and 3 feet above the drain was 175 ng/m³. Due to elevated concentrations above 1,000 ng/m³ in the floor drain a return trip was planned the week of February 9, 2015.

6.9 FEBRUARY 10, 2015

On February 10, 2015, OSC Verneta Simon and EPA Community Involvement personnel Charles Rodriguez were on site to screen mercury vapors in the laundry room drain. Mercury vapors in the drain decreased to 384 ng/m³. Based on the reduction in mercury concentrations to below action levels, no further action was taken. No elemental mercury was recovered during the investigation.

7.0 N ARTESIAN AVE – RESIDENTIAL MERCURY REMOVAL

The N Artesian Ave investigation was conducted between December 19 and 27, 2014. The N Artesian Ave property consists of a two-story building and basement; however, mercury was handled only on the first floor (see Figure 3 in Appendix A). The building is thought to have been built in 1885. The resident indicated the mercury spill occurred more than a year ago in the kitchen and living room. The initial breathing zone readings collected on December 19, 2014, were above the USEPA and ATSDR action level of 1,000 ng/m³ for normal occupancy for the most sensitive person. Mercury removal was initially attempted by use of a mercury vacuum, an application of HgX[®], cleaning and mopping up the HgX[®], and then several heating and venting cycles. However, mercury concentrations remained elevated after the aforementioned activities were completed.

Mercury beads were discovered after the initial remediation attempt, resulting in the removal of laminate flooring, wood flooring, and other flooring materials. Mercury concentrations decreased to below 1,000 ng/m³ after the contaminated material was removed in the living room and kitchen. A flooring contractor was hired by ERRS to repair the removed flooring and install new laminate. The removal action was completed on December 27, 2014. See Table 4 in Appendix B for mercury screening results. Less than one teaspoon of elemental mercury was recovered during the investigation.

7.1 DECEMBER 19, 2014

OSCs Emmanouil and Simon, START contractors Kondreck and Adam Peterca, one ERRS contractor, and CDPH representatives Sheahan and Dr. Lohff met with the property owner at approximately 2:00 p.m. to provide initial mercury screening. Mercury vapor concentrations in the breathing zone ranged from 5,398 to 8,331 ng/m³. Mercury vapors at floor level ranged from 4,182 to 8,400 ng/m³. USEPA recommended the residents temporarily relocate based on mercury concentrations above 1,000 ng/m³. USEPA requested the resident obtain documentation that the insurance denied a claim for the mercury spill cleanup cost before removal activities were initiated. The residents could not locate alternative housing; therefore, they did not depart immediately.

7.2 DECEMBER 22, 2014

OSC Simon, START contractors Kondreck and Lance Summers, and CDPH representative Dr. Lohff met with the property owner and tenants at approximately 1:30 p.m. to screen clothing and personal items that would be removed from the residence. Clothing and other items were placed in plastic bags and screened for mercury vapors. Clothing and other items above 10,000 ng/m³ were retained at the residence for

remediation or disposal. The 10,000 ng/m³ action level was implemented after discussing common procedures ERRS had used on other mercury sites. The residents were able to locate temporary housing for the duration of the removal activities.

7.3 DECEMBER 23, 2014

OSC Simon, START contractors Kondreck and Summers, and five ERRS contractors met at 7:00 a.m. to begin removal activities. OSC Simon, START contractor Summers, and four ERRS contractors departed to the S Central Park Ave residence after the heating and venting cycles had been initiated. Items touching the ground or items with potential mercury contamination (cloth items such as shirts, blankets, and pillows) were bagged for further mercury screening. The bathroom, kitchen, and living room floors were vacuumed, scrubbed with a solution of HgX[®], and then washed and dried several times in an attempt to reduce mercury concentrations. Salamander-style heaters were then used to heat up the residence to volatilize residual mercury. Once temperatures exceeded 100 °F, the windows were opened and fans were used to vent the indoor air outside. The cycle was repeated after venting decreased the indoor temperature to approximately 85 °F.

START screened the bagged personal items and discarded items with readings above 10,000 ng/m³. Items with less than 10,000 ng/m³ were heated and vented along with the rest of the residence. Items above 10,000 ng/m³ were photographed by START and disposed of by ERRS.

After 9 hours of heating and venting, the residence was allowed to equilibrate to normal conditions (at least 70 °F) before final mercury vapor readings were collected. Final elevated mercury vapor readings indicated elemental mercury was still present in the residence. Additional screening with the Lumex in locations identified by the homeowner where mercury was spilled resulted in visually identifying mercury beads. Mercury beads were identified behind the entertainment center in the living room and micro-mercury beads were stuck in the cracks of the kitchen laminate flooring.

7.4 DECEMBER 24, 2014

OSC Simon, START contractors Kondreck and Summers, and five ERRS contractors met at 7:00 a.m. to begin removal activities. OSC Simon, START contractor Summers, and three ERRS contractors left for the S Central Park Ave location to complete removal activities and returned shortly thereafter. Mercury beads visually identified on December 23, 2014, were removed by a mercury vacuum. Mercury beads lodged in glue or within building material were detached from the location and disposed of. Laminate flooring in high traffic areas were removed because mercury was lodged beneath the laminate flooring.

Screening for mercury occurred continuously throughout the laminate flooring and building material removal process to determine the extent of the mercury beads. Laminate flooring and building material removed were sealed within a plastic bag and disposed of along with the residents' personal items. After wood flooring had been removed in the living room, mercury beads were found in the cavity beneath the wood flooring and the sub-floor. Final readings collected at the end of the day indicated elemental mercury remains beneath the wood flooring and within the laminate flooring.

Personal items that were near the mercury beads were placed in plastic bags and screened for mercury. Items above 10,000 ng/m³ were photographed by START and disposed of by ERRS. ERRS collected a composite sample for laboratory analysis of mercury contaminated items to identify the final disposal destination.

7.5 DECEMBER 26, 2014

OSC Simon, START contractor Summers, and ERRS contractors met at 10:30 a.m. to begin removal activities. ERRS continued to remove flooring in the living room and vacuumed mercury beads until no mercury was visible and mercury vapors were below 6,000 ng/m³. A 1-by 1-foot section of flooring was removed in the kitchen where mercury beads were present. The area beneath the floor was cleaned using a mercury vacuum. The area was sealed with a sealer because of the elevated readings in the sub-floor.

The basement was screened for mercury vapors because mercury beads were found in the sub-floor of the living room and elevated readings found in the kitchen. Mercury vapor concentrations in the basement floors, ceiling, and breathing zone were all below 920 ng/m³. Heating and venting were initiated after the kitchen floor sealer set and continued for 90 minutes. The house was then vented and allowed to return to normal living temperatures (72 °F). Post-heating results were all below 1,000 ng/m³ throughout the house.

7.6 DECEMBER 27, 2014

OSC Simon, START contractor Summers, and ERRS contractors met at 7:00 a.m. to begin removal activities. Mercury concentrations in the breathing zone ranged from 4,162 to 8,600 ng/m³ and floor readings ranged from 4,123 to 7,601 ng/m³. The furniture and curtains in the living room were screened and determined to be contaminated. The furniture and curtains were therefore removed, bagged, and disposed of. A second coat of sealer was applied to the 1- by 1-foot cutout in the kitchen.

A flooring subcontractor was on-site following floor removal to repair and install new laminate flooring in rooms that were disturbed (living room, dining room, and kitchen). Final readings indicated breathing zone and flooring to be below 1,000 ng/m³ with the house temperature at 79 °F. Less than one teaspoon of elemental mercury was recovered during the investigation.

8.0 S CENTRAL PARK AVE – RESIDENTIAL MERCURY REMOVAL

The S Central Park Ave investigation was conducted between December 19 and 24, 2014. The South Central Park Ave Unit #1 property consists of one floor (first) of a three-story building. The building was built in 2009. The South Central Park Ave Unit #2 property consists of two floors (second and third) of a three-story building. See Figure 4 in Appendix A for the layout of South Central Park Ave Unit #2. The residents indicated the mercury spill occurred more than a year ago in the west bedroom (Bedroom #3) located on the third floor of the property in Central Park Ave Unit #2. The initial breathing zone readings collected on December 19, 2014, were above the USEPA and ATSDR action level of 1,000 ng/m³ for normal occupancy for the most sensitive person. As a result of the mercury removal action, in the carpet and personnel belongings were removed and disposed of from the west bedroom.

Mercury concentrations decreased to below 1,000 ng/m³ after the contaminated material was removed from the bedroom. The removal action was completed on December 24, 2014, after a second round of confirmation mercury screening results below 1,000 ng/m³. See Table 5 in Appendix B for mercury screening results for Unit #2 and Table 6 for Unit #1. Approximately one tablespoon of elemental mercury found in a container during the investigation. Free-standing elemental mercury was not observed during removal activities.

8.1 DECEMBER 19, 2014

OSC Emmanouil, START contractor Kondreck, one ERRS contractor, and CDPH representatives Sheahan and Dr. Lohff met with the tenants in Unit #2 (consisting of the second and third floor) at approximately 12:00 p.m. to provide initial mercury screening. Mercury vapor concentrations in the breathing zone ranged from 5,170 to 10,227 ng/m³. Floor zone mercury vapors ranged from 4,285 to greater than 50,000 ng/m³. USEPA recommended the residents temporary relocate based on mercury concentrations above 1,000 ng/m³.

After the mercury screening at the N Artesian location, USEPA met with the building manager for South Central Park Ave Unit #2 to discuss potential removal action activities and to obtain access agreements. The residents of South Central Park Ave Unit #2 could not locate alternative housing; therefore, they did not depart immediately.

OSCs Emmanouil and Simon, START contractor Kondreck, and CDPH representatives Sheahan and Dr. Lohff met with Unit #1 tenants at approximately 5:00 p.m. to provide initial mercury screening. Each

room of Unit #1 (first floor) was screened. Mercury vapor concentrations in the breathing zone ranged from 43 to 64 ng/m³. Mercury vapors ranged from 23 to 59 ng/m³ at the floor level. No suggested actions were taken as a result of the mercury screening to Unit #1 tenants.

8.2 DECEMBER 23, 2014

OSC Simon, START contractor Summers, and four ERRS contractors met at 8:30 a.m. to screen the occupants' belongings before they left their residence. The residents informed USEPA and the contractors that mercury was handled in bedroom #3. START began by screening the residence to identify elevated mercury concentrations. The highest mercury concentrations were found in carpeted floor zone of the west bedroom.

Based on the elevated mercury readings in bedroom #3, ERRS sectioned off the room with polyurethane material. ERRS bagged all items in bedroom #3 to evaluate for potential mercury contamination. The carpet was also removed in bedroom #3 based on elevated mercury concentrations.

Items bagged were screened for mercury vapor using a Lumex 915M Mercury Analyzer. Items above 10,000 ng/m³ were photographed and disposed of by the ERRS contractor. Items below 10,000 ng/m³ were placed in a containment tent in the back yard to undergo heating and venting. After a heating and venting cycle in the containment tent, the bagged items were screened and no bag was reported above 1,000 ng/m³. The bags were then staged open in the kitchen of South Central Park Ave. Unit #2. Once the carpet, carpet tack board, and other carpet materials were removed from Bedroom #3, ERRS used a mercury vacuum on the plywood surface. Bedroom #3 was then heated and vented for two and half hours.

Approximately one tablespoon of elemental mercury contained in a plastic container was on the back porch when USEPA and the contractor arrived. That container was overpacked and disposed of by the ERRS contractor. A second screening of the residence was conducted after carpet and bagged items had been removed. Mercury vapor concentrations were below 1,000 ng/m³, except for the west bedroom. A two and a half hour heat and vent cycle in bedroom #3 decreased the concentration to below 1,000 ng/m³.

8.3 DECEMBER 24, 2014

OSC Simon, START contractor Summers, and three ERRS contractors met at 7:00 a.m. to conduct a final screening of the residence and remove mercury contaminated bagged material that was temporarily staged in the back yard. Mercury vapor readings for both the breathing zone and the floor zone of the entire

South Central Park Ave Unit #2 residence were below 657 ng/m³. Since the readings were below 1,000 ng/m³, the residents could safely inhabit the unit. Approximately one tablespoon of liquid mercury (in a container located on the back porch) was recovered during the removal action. Free-standing mercury beads were not recovered during the removal action.

9.0 SUMMARY

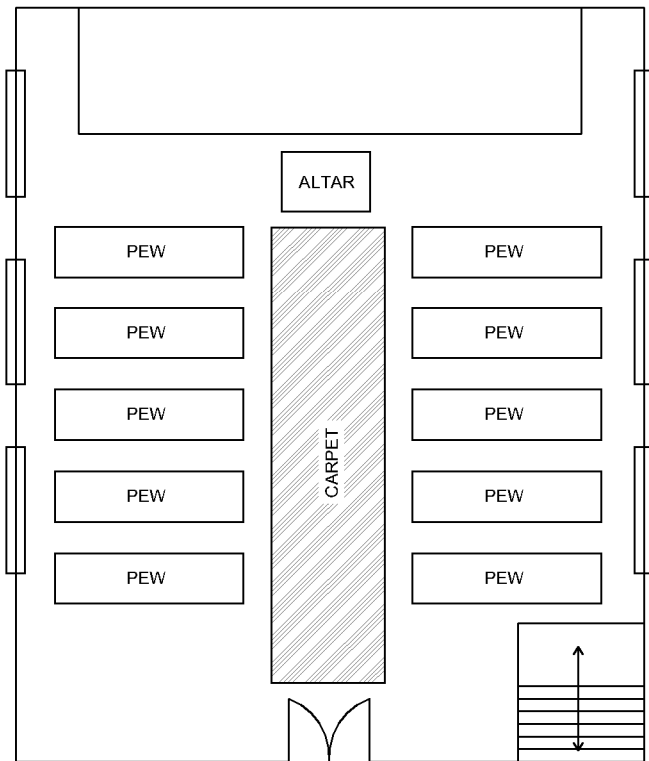
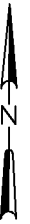
The Mozart Street Mercury spill was conducted at one church and three residences from December 12 through 31, 2014 and February 10, 2015. Below is a summary of removal activities:

- No elemental mercury was found or recovered during the investigation at W North Street or N Mozart Street.
- Less than one teaspoon of elemental mercury was estimated to be recovered and removed from the residence at N Artesian Ave.
- Approximately one tablespoon of elemental mercury was recovered from the residence at S Central Park Ave.
- 74 bags of material, two 55-gallon drums, and several sofas and chairs were disposed of as a result of the combined church and residential mercury spill (see PolREP 5 in Appendix E).

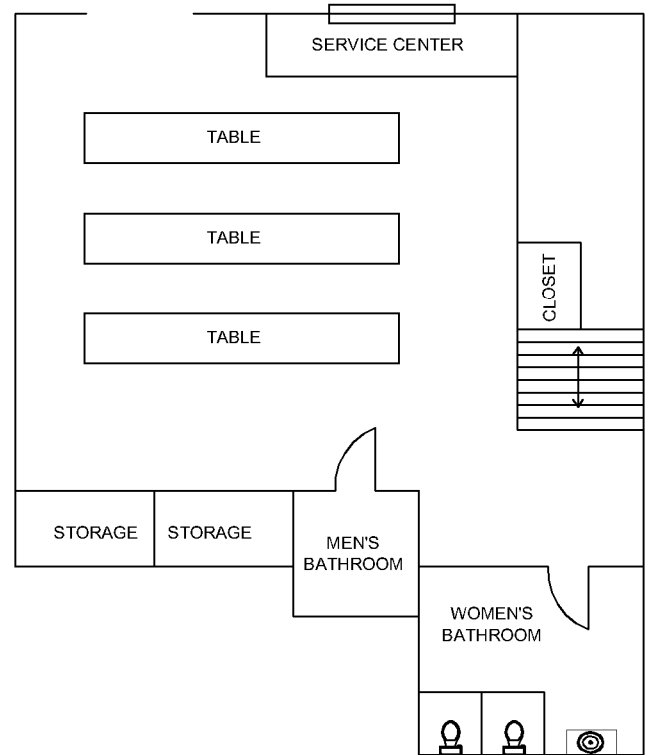
10.0 REFERENCES

- Agency for Toxic Substances and Disease Registry (ATSDR). 2012. Action Levels for Elemental Mercury Spills, Chemical-Specific Health Consultation for Joint EPA/ATSDR Nation Mercury Cleanup Policy Workgroup. March 22. On-Line: http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf
- National Response Center (NRC). 2014. NRC Report #1103283. December 12. Accessed On-Line: http://www.epaossc.org/site/doc_list.aspx?site_id=9672
- Ohio Lumex (Lumex). 2013. Potable Zeeman Mercury Analyzer RA-915M. Accessed On-Line: <http://ohiolumex.com/download/RA-915M.pdf>
- U.S. Environmental Protection Agency (USEPA). 2004. U.S. EPA Region 5 Mercury Response Guidebook. July. Accessed On-Line: <http://www.epa.gov/mercury/spills/>

APPENDIX A
SITE FIGURES



FIRST FLOOR - WORSHIP AREA
NOT TO SCALE



BASEMENT
NOT TO SCALE

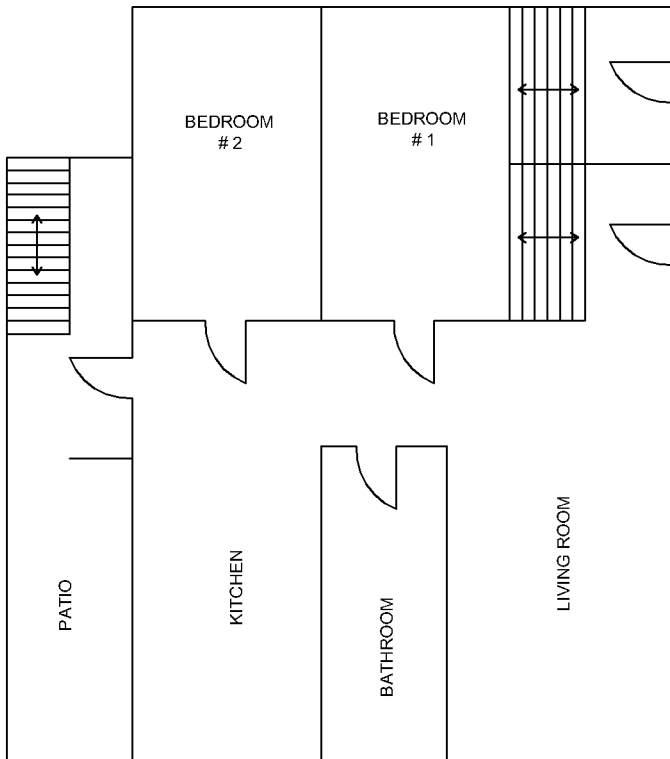
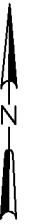
Mozart Street Mercury Spill Site
Chicago, Cook County, Illinois

Figure 1
W. North Avenue, Chicago, IL 60647
Property Layout

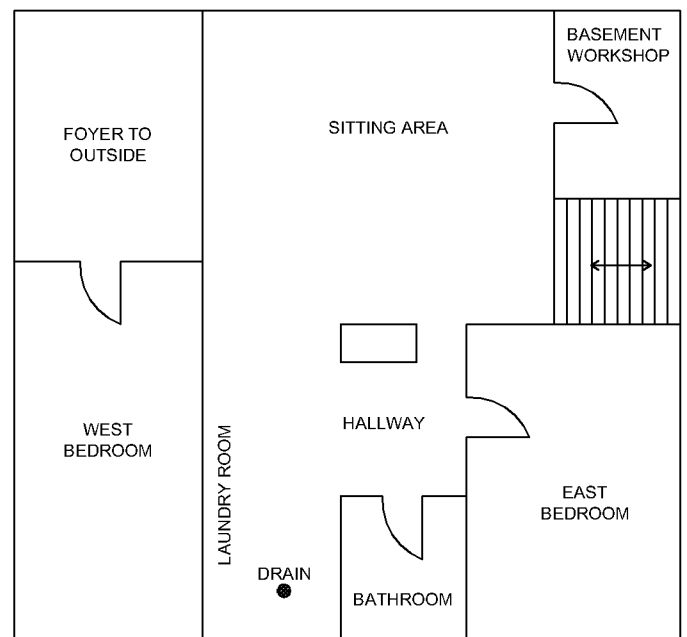


Prepared For: USEPA

Prepared By: Tetra Tech



FIRST FLOOR
NOT TO SCALE



BASEMENT
NOT TO SCALE

Mozart Street Mercury Spill Site
Chicago, Cook County, Illinois

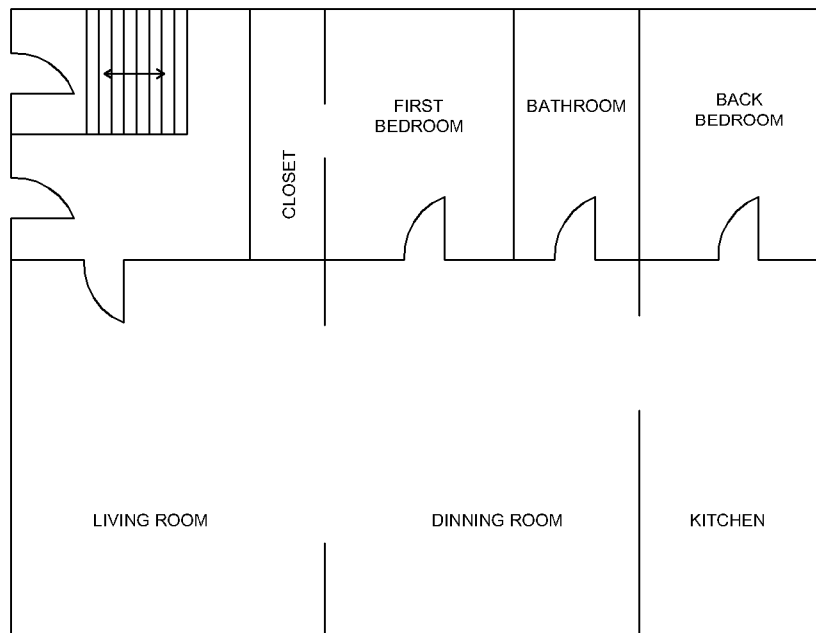
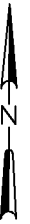
Figure 2
N. Mozart Street, Chicago, IL 60647
Property Layout



TETRA TECH

Prepared For: USEPA

Prepared By: Tetra Tech



PROPERTY LAYOUT
NOT TO SCALE

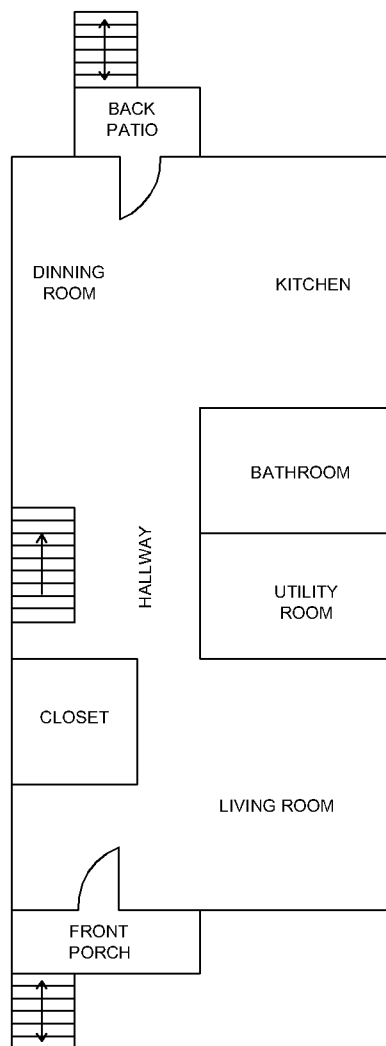
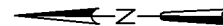
Mozart Street Mercury Spill Site
Chicago, Cook County, Illinois

Figure 3
N. Artesian Street, Chicago, IL 60622
Property Layout

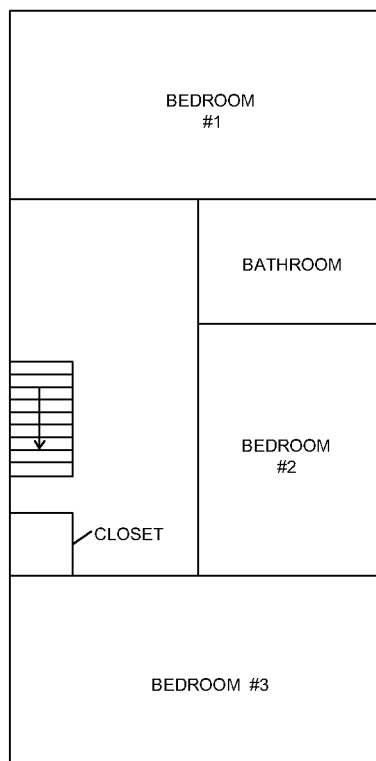


Prepared For: USEPA

Prepared By: Tetra Tech



FIRST FLOOR
NOT TO SCALE



SECOND FLOOR
NOT TO SCALE

Mozart Street Mercury Spill Site
Chicago, Cook County, Illinois

Figure 4
S. Central Park Avenue, Chicago, IL 60623
Property Layout



Prepared For: USEPA

Prepared By: Tetra Tech

APPENDIX B
TABLES

Table 1
Mercury Screening Results
Church at West North Ave, 1st Floor and Basement
December 2014

Location	12/12/14 at 1430			12/13/14 at 0800			12/15/14 at 1100		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Worship Area - Initial Entry	1,160	--	68	182	--	72	153	--	72
Worship Area - Floor	--	4,043		--	500		154	177	
Worship Area - Carpet	--	4,043		--	821		--	194	
Basement - Tables	1,253	1,972		302	4,334		214	533	
Basement - Serving Counter	--	5,240		--	1,360		--	965	
Basement - Floor	--	5,596		--	1,942		--	811	
Basement - Mens Bathroom	--	--		--	--		214	343	
Basement - Womens Bathroom	1,251	2,413		243	1,167		326	412	

Notes:

BZ = Breathing Zone

°F = Degrees Farenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m3)

Table 2
Mercury Screening Results
Residence at North Mozart St, 1st Floor and Basement
December 2014

Location	12/12/14 at 14:30			12/17/14 at 09:00			12/17/14 at 1448 & 1645			12/18/14 at 0855 & 0956			12/18/14 at 1341			12/19/14 at 1105		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	10,114	7,511	68	47	--	47	436	361	82	133	375	69	251	314	75	229	135	78
Living Room	11,001	17,000		80	678		443	1,142		102	528		260	289		177	215	
Dining Room	7,349	8,417		77	509		550	2,464		134	792		278	338		240	231	
1st Bedroom	9,351	9,457		124	477		572	963		185	406		--	--		513	548	
Bathroom	--	--		252	632		868	1,355		125	400		607	611		322	403	
2nd Bedroom	7,759	11,106		133	217		604	1,381		107	335		--	--		Locked	Locked	
Hallway to Kitchen	--	12,415		--	580		777	1,655		--	--		355	528		274	644	
Kitchen	9,023	11,084		389	732		711	1,243		324	1,257		335	708		352	412	
Pantry	9,027	5,237		243	576		707	904		202	362		391	371		Locked	Locked	
Basement Stairs	--	--		175	448		199	682	73	543	526	65	--	--	--	414	786	66
Basement Workshop	--	--		507	400		361	595		560	624		--	--		Locked	Locked	
Basement Sitting Room	7,728	8,734		171	678		341	502		268	438		--	--		785	261	
Basement East Bedroom	--	--		352	1,024		171	300		474	360		--	--		Locked	Locked	
Basement Hallway	--	11,117		--	--		543	690		341	502		--	--		439	563	
Basement Bathroom	10,897	7,788		187	2,028		372	3,672		372	672		--	--		Locked	Locked	
Basement Laundry	11,556	18,881		789	12,000		--	--		1,389	11,921		--	--		352	1,625†	
Basement West Bedroom	--	--		45	1,075		--	--		568	5,465		--	--		322	434	

Notes:

† = Reading collected immediately above sewer grate, general floor readings were 512 ng/m³

BZ = Breathing Zone

Locked = Door was locked to room, homeowner could not open

°F = Degrees Fahrenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m³)

Results above USEPA/ATSDR residential action level for isolation of contamination or evacuation of residence (>10,000 ng/m³)

Table 2
Mercury Screening Results
Residence at North Mozart St, 1st Floor and Basement
December 2014

Location	12/30/14 at 1030			12/31/14 at 0900			2/10/15 at 1000		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	183	--	--	188	--	--	55	--	--
Living Room	--	--		--	--		--	--	
Dining Room	--	--		--	--		--	--	
1st Bedroom	--	--		--	--		--	--	
Bathroom	--	--		--	--		--	--	
2nd Bedroom	--	--		--	--		--	--	
Hallway to Kitchen	--	--		--	--		--	--	
Kitchen	--	--		--	--		--	--	
Pantry	--	--	68	--	--	68	--	--	68
Basement Stairs	--	--		--	--		--	--	
Basement Workshop	--	--		--	--		--	--	
Basement Sitting Room	--	--		204*	--		61	--	
Basement East Bedroom	--	--		--	--		--	--	
Basement Hallway	--	--		--	--		--	--	
Basement Bathroom	--	--		--	--		--	--	
Basement Laundry	291	2,248†		177	1,084*‡		94	384	
Basement West Bedroom	--	--		--	--		--	--	

Notes:

† = Reading collected immediately above sewer grate, 6 inches above sewer grate was 550 ng/m³

‡ = Average concentration 6" above drain 830 ng/m³; average at 3' above drain 175 ng/m³

* = Average (see field notebook for details)

BZ = Breathing Zone

°F = Degrees Fahrenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m³)

Table 3
Mercury Screening Results
Residence at North Mozart St, 3rd Floor
December 2014

Location	12/18/14 at 0926		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Entry to Stairwell	175	--	75
Entry to 3rd Floor	350	542	
Initial Entry & Living Room	417	509	
Hallway	385	406	
Bedroom	405	466	
Kitchen (next to fireplace)	422	397	
Back of Kitchen	442	455	
Bathroom	666	678	
Back Stairwell/Closet	539	879	

Notes:

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

Table 4
Mercury Screening Results
Residence at North Artesian St, 1st Floor
December 2014

Location	12/19/14 at 14:15			12/23/2014 at 0710			12/23/14 at 1807			12/23/2014 at 1911			12/24/14 at 0700		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	6,060	--	68	4,700	1,195	65	40	--	90	1,775	1,157	79	6,884	--	77
Living Room	--	4,182		6,327	9,300		327	947		2,479	2,847		7,708	32,800	
- Cut Out Area	--	--		--	--		--	--		--	--		--	--	
Dining Room	5,398	7,900		4,838	6,800		483	1,261		2,320	2,642		6,704	7,800	
1st Bedroom	8,331	8,400		4,800	5,143		205	802		1,886	1,923		6,152	6,580	
Kitchen	6,730	5,800		5,900	10,000		587	1,267		2,179	1,857		5,843	6,331	
Bathroom	6,218	5,997		8,800	20,000		612	1,370		3,894	3,447		6,999	6,268	
Back Bedroom	6,303	6,557		5,111	5,570		980	1,471		2,164	1,370		5,829	4,140	
Basement	--	--		--	--		--	--		--	--		--	--	

Notes:

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m3)

Results above USEPA/ATSDR residential action level for isolation of contamination or evacuation of residence (>10,000 ng/m3)

Table 4
Mercury Screening Results
Residence at North Artesian St, 1st Floor
December 2014

Location	12/24/2014 at 1155			12/24/14 at 1523			12/26/2014 at 1030			12/26/14 at 1415			12/26/2014 at 1740		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	3,300	--	111 to 91	--	--	72	6,080	--	59	962	--	57	362	--	72
Living Room	3,400	6,700		1,700	3,500		5,500	6,700		1,100	731		489	749	
- Cut Out Area	--	--		--	10,000		--	12,000		--	1,942		--	791	
Dining Room	3,400	8,100		1,900	8,400		5,465	6,600		744	1,208		601	696	
1st Bedroom	3,400	2,700		1,200	910		4,300	6,200		711	748		452	502	
Kitchen	3,600	10,000		2,100	8,900		5,400	6,650		802	1,144		788	713	
Bathroom	6,200	6,100		2,300	2,600		5,500	6,300		667	751		691	701	
Back Bedroom	3,600	3,500		2,200	2,300		5,000	6,000		671	682		671	772	
Basement	--	--		--	--		--	--		<920	<920		--	--	

Notes:

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m3)

Results above USEPA/ATSDR residential action level for isolation of contamination or evacuation of residence (>10,000 ng/m3)

Table 4
Mercury Screening Results
Residence at North Artesian St, 1st Floor
December 2014

Location	12/27/14 at 0730			12/27/2014 at 0900			12/27/14 at 1630		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	5,600	5789	59	263	--	72	261	--	79
Living Room	8,600	7,601		544	644		550	274	
- Cut Out Area	--	--		--	--		--	--	
Dining Room	5,621	6,012		601	681		562	436	
1st Bedroom	4,873	5111		413	558		541	421	
Kitchen	4,610	4,123		428	701		609	586	
Bathroom	4,342	4,812		628	605		644	692	
Back Bedroom	4,162	5,912		708	698		632	347	
Basement	--	--		--	--		--	--	

Notes:

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m³)

Results above USEPA/ATSDR residential action level for isolation of contamination or evacuation of residence (>10,000 ng/m³)

Table 5
Mercury Screening Results
Residence at S Central Park Ave, Unit 2
December 2014

Location	12/19/14 at 1237			12/23/14 at 0900			12/23/14 at 1745			12/24/14 at 0800		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	6,204	--	68	1,487	--	73	480	441	70	482 to 657	241 to 402	70
Living Room	6,060	4,841		1,500	1,200		342	471				
Hallway	5,422	4,960		1,500	1,100		491	502				
Downstairs Closet	--	--		1,400	850		351	377				
Laundry Room	5,170	5,228		1,200	1,000		421	413				
Dining Area	5,807	4,772		1,200	1,000		471	511				
Kitchen	5,799	5,520		1,200	1,000		444	521				
Stairway	6,874	6,700		1,400	1,400		429	531				
Upstairs Hallway	7,297	5,951		1,200	1,200		507	521				
West Bedroom	10,227	+50,000		12,000	20,000		682	1,020/542*				
Central Bedroom	7,521	7,284		1,200	1,200		493	622				
Master Bedroom	6,811	4,285		1,200	1,200		502	541				
Upstairs Closet	--	--		1,200	1,200		515	686				
Downstairs Bathroom	--	--		--	--		541	513				
Upstairs Bathroom	--	--		--	--		512	522				

Notes:

* = Result at 542 ng/m³ after heating and venting

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

Results above USEPA/ATSDR residential action level for normal occupancy (>1,000 ng/m³)

Results above USEPA/ATSDR residential action level for isolation of contamination or evacuation of residence (>10,000 ng/m³)

Table 6
Mercury Screening Results
Residence at S Central Park Ave, Unit 1
December 2014

Location	12/19/14 at 1724		
	BZ (ng/m ³)	Floor (ng/m ³)	Temp. (°F)
Initial Entry	54	23	72
Kitchen/Dining Room	43	48	
Bedroom/Siting Room	49	58	
Laundry Room	50	57	
Bathroom	57	58	
Hallway	64	58	
Masterbedroom	59	59	

Notes:

BZ = Breathing Zone

°F = Degrees Faurenheit

ng/m³ = nanograms/cubic meter

APPENDIX C

START FIELD NOTES

HAS BEEN REDACTED TO PROTECT PERSONAL INFORMATION

45 PAGES

APPENDIX D
PHOTOGRAPHIC DOCUMENTATION

Photographic Documentation

Client: U.S. EPA Region 5
Site Name: Mozart Street Mercury Spill Sites
Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.
TDD Number: S05-0001-1412-006
Dates: Dec. 12 through Jan, 2015

Photograph No. 1

Photographer: Aaron Stevens

Photograph Date: 12/13/14

Photograph Time: 09:43

Location: W North Ave (Church)

Description: START performing mercury screening using a Lumex in the basement of the Church.



Photograph No. 2

Photographer: Robert Kondreck

Photograph Date: 12/13/14

Photograph Time: 10:49

Location: W North Ave (Church)

Description: Areas with elevated mercury concentrations marked off for remediation.



Photographic Documentation

Client: U.S. EPA Region 5

Site Name: Mozart Street Mercury Spill Sites

Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.

TDD Number: S05-0001-1412-006

Dates: Dec. 12 through Jan, 2015

Photograph No. 3

Photographer: Aaron Stevens

Photograph Date: 12/17/14

Photograph Time: 10:45

Location: N Mozart St

Description: START and ERRS screening and attempting to visually identify mercury in the basement laundry room



Photograph No. 4

Photographer: Aaron Stevens

Photograph Date: 12/17/14

Location: N Mozart St

Photograph Time: 12:25

Description: ERRS using mercury vacuum to remove



Photographic Documentation

Client: U.S. EPA Region 5
Site Name: Mozart Street Mercury Spill Sites
Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.
TDD Number: S05-0001-1412-006
Dates: Dec. 12 through Jan, 2015

Photograph No. 5

Photographer: Robert Kondreck

Photograph Date: 12/17/14

Photograph Time: 15:04

Location: N Mozart St

Description: Using a salamander style heater to heat the laundry room.



Photograph No. 6

Photographer: Lance Summers

Photograph Date: 12/24/2014

Photograph Time: 13:53

Location: N Artesian Ave

Description: Mercury beads discovered beneath the floor boards on the north wall of the living room



Mercury Beads

Photographic Documentation

Client: U.S. EPA Region 5
Site Name: Mozart Street Mercury Spill Sites
Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.
TDD Number: S05-0001-1412-006
Dates: Dec. 12 through Jan, 2015

Photograph No. 7

Photographer: Lance Summers

Photograph Date: 12/26/14

Photograph Time: 15:18

Location: N Artesian Ave

Description: Removed flooring as a result of “chasing” mercury beads.



Photograph No. 8

Photographer: Robert Kondreck

Photograph Date: 12/23/2015

Photograph Time: 12:02

Location: N Artesian Ave

Description: ERRS using salamander style heater to heat the residence to volatilize the mercury.



Photographic Documentation

Client: U.S. EPA Region 5
Site Name: Mozart Street Mercury Spill Sites
Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.
TDD Number: S05-0001-1412-006
Dates: Dec. 12 through Jan, 2015

Photograph No. 9

Photographer: Robert Kondreck

Photograph Date: 12/23/14

Photograph Time: 8:30

Location: N Artesian Ave

Description: Venting the residence using high volume fans.



Photograph No. 10

Photographer: Karl Shultz

Photograph Date: 12/27/14

Photograph Time: 9:55

Location: N Artesian Ave

Description: Replacing removed floorboards.



Photographic Documentation

Client: U.S. EPA Region 5
Site Name: Mozart Street Mercury Spill Sites
Location: Multiple Locations, Chicago, IL

Prepared by: Tetra Tech, Inc.
TDD Number: S05-0001-1412-006
Dates: Dec. 12 through Jan, 2015

Photograph No. 11

Photographer: Robert Kondreck

Photograph Date: 12/23/2014

Photograph Time: 22:17

Location: S Central Park Ave

Description: Heating and venting personal belongings in a tent outside the residence.



Photograph No. 12

Photographer: Lance Summers

Photograph Date: 12/23/2014

Photograph Time: 12:22

Location: S Central Park Ave

Description: Recovered contained liquid mercury.



APPENDIX E
USEPA POLREPS

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep
Initial Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #1**
Initial
Mozart Street Mercury Spill

Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

To: Mark Johnson, ATSDR
Sam Borries, U.S. EPA
Jason El-Zein, U.S. EPA
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Valencia Darby, U.S. DOI
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Matt Mankowski, U.S. EPA
Mike Ribordy, U.S. EPA
Terry Sheahan, Chicago Department of Public Health
Larry Kyte, USEPA, ORC

From: Stavros Emmanouil, OSC

Date: 12/13/2014

Reporting Period: 12/12/14 to 12/13/14

1. Introduction

1.1 Background

Site Number:	Contract Number:	
D.O. Number:	Action Memo Date:	
Response Authority: CERCLA	Response Type:	Emergency
Response Lead: EPA	Incident Category:	Removal Assessment
NPL Status: Non NPL	Operable Unit:	
Mobilization Date:	Start Date:	
Demob Date:	Completion Date:	
CERCLIS ID:	RCRIS ID:	
ERNS No.:	State Notification:	
FPN#:	Reimbursable Account #:	

1.1.1 Incident Category
CERCLA Emergency Response

1.1.2 Site Description

On December 12, 2014 EPA and START mobilized to two City of Chicago locations to investigate for suspected mercury contamination at the request of the Chicago Department of Health.

1.1.2.1 Location

Both sites are located south of the Logan Square neighborhood in Chicago, Illinois. The area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA and START conducted an initial assessment of the residence and church. The results are summarized in the Table below. EPA and START did not observe the presence of beads of mercury in either structure.

START Initial Outdoor / Indoor Mercury Vapor Screening Results

Residence on 12/12/14
1910 N Mozart, Chicago, IL

Location	Sub-location	Floor (ng/m3)	BZ (ng/m3)	Temp (°F)
Outside	--	--	15	32°
1 st Floor	Initial Entry	7,511	10,114	68°
	Living Room	17,000	11,001	
	Dining Room	8,417	7,349	
	1 st Bedroom	9,457	9,351	
	2 nd Bedroom	11,106	7,759	
	Hallway to Kitchen	12,415	--	
	Kitchen	11,084	9,023	
	Pantry	5,237	9,027	
Basement	Initial Room	8,734	7,728	68°
	Hallway	11,117	--	
	Bathroom	7,788	10,897	
	Laundry	18,881	11,556	

START Initial Outdoor / Indoor Mercury Vapor Screening Results

San Lucas United Church (also Boys and Girls Club)

2014 W. North Ave., Chicago, IL					
Date	Location	Sub-location	Floor (ng/m3)	BZ (ng/m3)	Temp (°F)
12/12/14	Outside	--	--	4	32°
	1 st Floor	Front Pews	4,003	1,160	68°
		Carpet	4,043		
	Basement	Table	1,972	1,253	
		Serving Counter	5,240		
		Floor	5,596		
		Women's Bathroom	2,413	1,251	
12/13/14	Outside	--	--	2	32°
	1 st Floor	Front Pews	500	182	72°
		Carpet	821		
	Basement	Table	4,334	302	
		Serving Counter	1,360		
		Floor	1,942		
		Women's Bathroom	1,167	243	

Notes:

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m3 = nanograms per cubic meter

Readings observed with a Lumex 915+ Mercury Analyzer

2. Current Activities**2.1 Operations Section****2.1.1 Narrative**

On December 12, 2014 EPA and START mobilized to two City of Chicago locations to investigate for suspected mercury contamination. A church basement and first floor of a multi-unit building located at 2914 W North Avenue and the basement and first floor of a multi-unit residential building located at 1910 N Mozart Street were reportedly contaminated with liquid mercury due to a young individual showing and handling the material with family and friends.

The site at 2914 W North Avenue (San Lucas Church) consists of an approximate 600 sq ft worship area with pews and an altar on the first floor and an approximate 400 sq ft meeting area and cafeteria (as used as a meeting place for a Boys and Girls Club) in the basement. The building is a total of three stories above grade however mercury exposure reportedly only occurred on the first floor and basement levels.

The site at 1910 N Mozart Street consist of an approximate 1,000 sq foot unit consisting of a basement and first floor. The building is a two story multi-family residential house with a separate family renting the second floor. Mercury is known to have been released on the first floor and basement levels where the family of the young individual resides.

2.1.2 Response Actions to Date

On December 12, 2014 EPA and START conducted an assessment at the church at 2914 W North Ave, Chicago, IL and a residence at 1910 N Mozart St, Chicago, IL. At both locations vapors were detected with a Lumex 915+ Mercury Analyzer in the breathing zone and surfaces (e.g. floor, tables, etc.) (see Section 1.1.3 for tabulated results of the screening)

EPA and START screened the first floor and basement of the church for mercury vapors. Elevated mercury vapor results (greater than 1,000 ng/m³) caused EPA to temporary limit use of the basement. EPA suggested the maintenance manager heat and vent the building overnight.

EPA and START screened the first floor and basement of the young individuals residence for mercury vapors. Mercury vapors in ambient air were approximately 10,000 ng/m³ upon entry causing EPA to suggest relocation of the individuals residing in the unit. The highest mercury vapor readings were on the basement floor with a result of approximately 18,000 ng/m³. Prior to the relocating, START screened clothes and other articles that were removed from the residence.

On December 13, 2014, EPA and START returned to the church to screen for mercury vapors on the first floor and basement. Overall ambient air results were lower, however elevated mercury vapor in the basement remained above 1,000 ng/m³. At one floor location, the mercury vapor results were above 4,000 ng/m³. EPA suggested that the maintenance manager procure sulfur powder and spread over the floors, then carefully clean the sulfur powder that has bonded (clumped) in an attempt to remove the liquid mercury. EPA also suggested to heat and vent the building over the weekend. Unrestricted use of the first floor was suggested due to low mercury vapor results.

EPA and START then mobilized to the residential structure to screen additional clothes and articles for a resident of the building to relocate with.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Ongoing

2.1.4 Progress Metrics

None

2.2 Planning Section

2.2.1 Anticipated Activities

On December 15, 2014, EPA and START will return to the church and residential structure to perform additional screening. Based on screening levels at the church, no additional action may be required. If no other resources are available through the home owners insurance or the city of Chicago, a removal action may be conducted at the residence.

2.2.1.1 Planned Response Activities

On December 15, 2014, EPA may deploy START and ERRS to perform a removal action at the residence (see Section 2.2.1). Removal action at the church will depend on screening results obtained by START on December 15, 2014 and if no other sources are available to perform the removal (e.g. insurance or local government support).

2.2.1.2 Next Steps

Obtain insurance claim denial form from the residence.

Obtain and official access agreement.

Mobilize to the residence and / or church if no other resources are available.

2.2.2 Issues

None at this time.

2.3 Logistics Section

Logistics will be provided by ERRS.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have not been established.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department

Agency for Toxic Substance and Disease Control

Chicago Department of Health

Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
EPA	OSC	1
Tetra Tech	START	2

5. Definition of Terms

CHD = Chicago Health Department

ng/m3 = nanogram per meters cubed

START = Superfund Assessment and Response Team

ATSDR =Agency for Toxic Substances and Disease Registry

ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

None

6.2 Reporting Schedule

Not established

7. Situational Reference Materials

None

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #2
Mozart Street Mercury Spill

Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

To: Mark Johnson, ATSDR
Sam Borries, U.S. EPA
Jason El-Zein, U.S. EPA
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Valencia Darby, U.S. DOI
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Matt Mankowski, U.S. EPA
Mike Ribordy, U.S. EPA
Terry Sheahan, Chicago Department of Public Health
Larry Kyte, USEPA, ORC

From: Verneta Simon / Stavros Emmanouil, OSCs

Date: 12/20/2014

Reporting Period: 12/13/14 to 12/19/14

1. Introduction

1.1 Background

Site Number:	C55F	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	12/15/2014	Start Date:	12/15/2015
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	Complete
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

CERCLA Emergency Response. Mercury spill clean-up at one church and three residences.

1.1.2 Site Description

From December 12, 2014 and December 19, 2014 EPA and START mobilized to a total of four City of Chicago locations to investigate suspected mercury contamination at the request of the Chicago Department of Public Health.

1.1.2.1 Location

Two of the sites are located south of the Logan Square neighborhood (N Mozart St and W North Ave), one site is located in the Wicker Park neighborhood (N Artesian Ave), and one site is located in the North Lawndale neighborhood (S Central Park Ave) in Chicago, Illinois. In general, each area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA and START conducted a final assessment of the N Mozart St Residence on December 19, 2014 and San Lucas church (W North Ave) on December 15, 2014. USEPA and START conducted initial assessments of the N Artesian Ave Residence and S Central Park Ave Residence on December 19, 2014. The final and initial assessment results are summarized in the Tables below. USEPA and START did not observe the presence of beads of mercury in any of the locations.

START Final Mercury Vapor Screening Results Residence on December 19, 2014N Mozart St., Chicago, IL

Location		Sub-location	BZ (ng/m3)	Floor (ng/m3)	Temp (°F)
1st Floor		Initial Entry	229	135	78
		Living Room	177	215	
		Dining Room	240	231	
		1st Bedroom	513	548	
		2nd Bedroom	Locked	Locked	
		Hallway to Kitchen	274	644	
		Bathroom	322	403	
		Kitchen	352	412	
		Pantry	Locked	Locked	
Basement		Initial Room	785	261	68
		Hallway	439	563	
		Bathroom	Locked	Locked	
		Laundry	352	512	
		Laundry - Drain	379	1,625*	
		Back Bedroom	322	434	

START Final Mercury Vapor Screening ResultsSan Lucas United Church on December 15, 2014W North Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temp (°F)

Worship Area – Initial Entry	153	--	72
Worship Area – Floor	154	177	
Worship Area - Carpet	--	194	
Basement – Tables	214	533	
Basement – Serving Counter	--	965	
Basement – Floor	--	811	
Basement – Men’s Bathroom	214	343	
Basement – Women’s Bathroom	326	412	

START Initial Mercury Vapor Screening Results
Residence on December 19, 2014
N Artesian Ave, Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temp (°F)
Initial Entry	6,060	--	68
Living Room	--	4,182	
Middle Room	5,398	7,900	
Bedroom	8,331	8,400	
Kitchen	6,730	5,800	
Bathroom	6,218	5,997	
Back Bedroom	6,303	6,557	

The basement of the residence was locked and therefore could not be screened during the December 19, 2014 initial screening.

START Initial Mercury Vapor Screening Results
Residence on December 19, 2014
S Central Park Ave Residence, Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temp (°F)
Initial Entry	6,204	--	68
Living Room	6,060	4,841	
Hallway	5,422	4,960	
Laundry Room	5,170	5,228	
Dining Area	5,807	4,772	
Kitchen	5,799	5,520	
Stairway	6,874	6,700	
Upstairs Hallway	7,297	5,951	
West Bedroom	10,227	+50,000	
Central Bedroom	7,521	7,284	
Master Bedroom	6,811	4,285	

The resident placed a container of mercury on the back porch for disposal during the potential removal action.

The downstairs unit was screened on December 19, 2014. Mercury vapors were below 1,000 ng/m3.

Notes:

* = An elevated reading above 1,000 ng/m3 exists immediately ontop of the floor drain in the laundry room. ERRS could not seal the floor drain because the residence were using the drain as a washing machine and bathroom sink discharge.

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m3 = nanograms per cubic meter

Readings observed with a Lumex 915M Mercury Analyzer

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On December 12, 2014 USEPA and START responded to a City of Chicago Department of Public Health (CDPH) request for assistance in response to a mercury spill at Clemente High School. The individual potentially responsible for the spill also showed and handled mercury at San Lucas Church (W North Street) and a residence on N Mozart St. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

On December 19, 2014 USEPA and START responded another CDPH request for assistance involving the origin of the mercury for the Clemente High School mercury spill. This request included an additional two residence (N Artesian Ave and S Central Park Ave) where mercury was handled. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

A total of three residence and one Church are included in the Mozart St mercury spill.

2.1.2 Response Actions to Date

From December 12 through 15, 2014 USEPA and START completed mercury spill investigative activities at San Lucas Church on W North Street. San Lucas Church staff heated and vented the first and basement floors of the building in an attempt to remove mercury vapors. In the basement, San Lucas Church staff applied sulfur to the tables and floors to remove mercury vapors. The final mercury screening took place on December 15, 2014. Mercury vapors were below the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

From December 12 through 19, 2014 USEPA, START, and ERRS completed removal action activities at the N Mozart Street residence. ERRS mobilized a mercury vacuum to remove debris in areas with high mercury concentrations. Areas with persistently high mercury concentrations were cleaned with a mercury removal agent (HgX). Headspace readings were collected of clothes in affected areas and disposed of per the USEPA/ATSDR action levels. To remove residual mercury vapors the residence was heated then vented. The final mercury screening took place on December 19, 2014. Mercury concentrations were reduced to below USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person prior to USEPA, START, and ERRS demobilization.

On December 19, 2014, USEPA, START, and Chicago Department of Public Health, mobilized to a residence on N Artesian Ave to perform mercury vapor assessment activities. Mercury vapors in the residence were above USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person. CDPH suggested alternative housing due to elevated mercury levels. The residence could not locate alternative housing.

On December 19, 2014, USEPA, START, and Chicago Department of Public Health, mobilized to a residence on S Central Park Ave to perform mercury vapor assessment activities. Mercury vapors in the residence were above USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person. CDPH suggested alternative housing due to elevated mercury levels. The residence could not locate alternative housing.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Multiple - Ongoing

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
Household item/debris/PPE	Solid	(6) 55-gal drum			Landfill

2.2 Planning Section

2.2.1 Anticipated Activities

On December 22, 2014, USEPA will secure access agreements for the residential properties at N Artesian Ave and S Central Park Ave. If no other resources are available through the home owners insurance or the City of Chicago, a removal action may be conducted at both residences.

2.2.1.1 Planned Response Activities

On December 22, 2014, EPA may deploy START and ERRS to perform a removal action at the residences (see Section 2.2.1).

2.2.1.2 Next Steps

Obtain alternative housing for the residences.

Obtain insurance claim denial form from the residences.

Obtain and official access agreement.

Mobilize START and ERRS to the residences if no other resources are available.

2.2.2 Issues

None at this time.

2.3 Logistics Section

Logistics will be provided by ERRS.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have been established as shown below.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$25,000.00	\$8,750.00	\$16,250.00	65.00%
TAT/START	\$15,000.00	\$8,886.00	\$6,114.00	40.76%
Intramural Costs				
Total Site Costs	\$40,000.00	\$17,636.00	\$22,364.00	55.91%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response. A health and safety plan was generated and signed by appropriate site personnel. Health and Safety briefings were conducted daily during site operations.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department
Agency for Toxic Substance and Disease Control
Chicago Department of Public Health
Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
EPA	OSC	1
Tetra Tech	START	2
ER	ERRS	3

OSC Emmanouil is going on vacation and the site is being transitioned to OSC Verneta Simon.

5. Definition of Terms

CHD = Chicago Health Department
ng/m3 = nanogram per meters cubed
START = Superfund Assessment and Response Team
ATSDR =Agency for Toxic Substances and Disease Registry
ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

Please find additional information on the UEPA OSC Website:
http://www.epaosc.org/site/site_profile.aspx?site_id=9672

6.2 Reporting Schedule

The OSC will issue an additional Polrep on a date to be determined.

7. Situational Reference Materials

Please refer to the Joint EPA / ATSDR Chemical Specific Health Consultation for Action Levels for Elemental Mercury Spills:

http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #3
Mozart Street Mercury Spill

Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

To: Mark Johnson, ATSDR
Sam Borries, U.S. EPA
Jason El-Zein, U.S. EPA
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Valencia Darby, U.S. DOI
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Matt Mankowski, U.S. EPA
Mike Ribordy, U.S. EPA
Verneta Simon / Stavros Emmanouil,
Terry Sheahan, Chicago Department of Public Health
Larry Kyte, USEPA ORC
Cortland Lohff, Chicago Department of Public Health
Thomas Kenney, USEPA ORC
Lance Summers, Tetra Tech
Michael Rafati, USEPA
Robert Kondreck, Tetra Tech
Alexis Cain, USEPA
Ramon Mendoza, USEPA
Charles Rodriguez, USEPA
Luis Oviedo, USEPA

From: Verneta Simon / Stavros Emmanouil, OSCs

Date: 12/24/2014

Reporting Period: 12/19/14 to 12/24/2014

1. Introduction

1.1 Background

Site Number:	C55F	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	12/15/2014	Start Date:	12/15/2015

Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification: Complete
FPN#:	Reimbursable Account #:

1.1.1 Incident Category

CERCLA Emergency Response. Mercury spill clean-up at one church and three residences.

1.1.2 Site Description

From December 12, 2014 to December 24, 2014 EPA and START mobilized to a total of four City of Chicago locations to investigate suspected mercury contamination at the request of the Chicago Department of Public Health.

1.1.2.1 Location

Two of the sites are located south of the Logan Square neighborhood (N Mozart St and W North Ave), one site is located in the Wicker Park neighborhood (N Artesian Ave), and one site is located in the North Lawndale neighborhood (S Central Park Ave) in Chicago, Illinois. In general, each area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry (ATSDR), the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Refer to Polrep 1 and Polrep 2 for activities prior to December 19, 2014. USEPA and START conducted final assessments at S Central Park Ave on December 23 and 24, 2014. USEPA and START conducted an additional assessment at N Artesian Ave on December 24, 2014. The final and additional assessment results are summarized in the Tables below. USEPA and START did not observe the presence of beads of mercury at the S Central Park Ave location but did observe mercury beads at the N Artesian Ave location.

START Final Mercury Vapor Screening Results Residence on December 23, 2014 S Central Park Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry	480	411	70
Living Room	342	471	
Downstairs Hallway	491	502	
Downstairs Closet	351	377	
Utility Room	421	413	
Dining Area	471	511	
Kitchen	444	521	
Stairwell	429	531	
1 st Bedroom	502	341	
2 nd Bedroom	493	622	
3 rd Bedroom	300	542	
Upstairs Hallway	507	521	
Upstairs Closet	515	686	
Downstairs Bathroom	541	513	

Upstairs Bathroom	512	522	
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Final confirmation readings were collected on December 24, 2014; BZ ranged from 482 ng/m3 to 657 ng/m3 throughout the house, Floor readings ranged from 241 ng/m3 to 402 ng/m3 throughout the house.

START Additional Mercury Vapor Screening Results
Residence on December 24, 2014
N Artesian Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry/Foyer	--	--	72
Living Room	1,700	10,000*	
Dining Room	1,900	8,400	
1 st Bedroom	1,200	910	
Kitchen	2,100	8,900	
Bathroom	2,300	2,600	
2 nd Bedroom	2,200	2,300	

* Living Room readings were collected from beneath the removed flooring.

Notes:

- = No readings taken

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m3 = nanograms per cubic meter

Readings observed with a Lumex 915M Mercury Analyzer

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On December 12, 2014 USEPA and START responded to a City of Chicago Department of Public Health (CDPH) request for assistance in response to a mercury spill at Clemente High School. The individual potentially responsible for the spill also showed and handled mercury at San Lucas Church (W North Street) and a residence on N Mozart St. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

On December 19, 2014 USEPA and START responded to another CDPH request for assistance involving the origin of the mercury for the Clemente High School mercury spill. This request included an additional two residences (N Artesian Ave and S Central Park Ave) where mercury was handled. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

A total of three residence and one Church are included in the Mozart St mercury spill.

2.1.2 Response Actions to Date

From December 12 through 15, 2014, USEPA and START completed mercury spill investigative activities at San Lucas Church on W North Street. San Lucas Church staff heated and vented the first and basement floors of the building in an attempt to remove mercury vapors. In the basement, San Lucas Church staff applied sulfur to the tables and floors to remove mercury vapors. The final mercury screening took place on December 15, 2014. Mercury vapors were below the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

From December 12 through 19, 2014, USEPA, START, and ERRS completed removal action activities at the N Mozart Street residence. ERRS mobilized a mercury vacuum to remove debris in areas with high mercury concentrations. Areas with persistently high mercury concentrations were cleaned with a mercury removal agent (HgX). Headspace readings were collected of clothes in affected areas and disposed of per the USEPA/ATSDR action levels. To remove residual mercury vapors the residence was heated then vented. The final mercury screening took place on December 19, 2014. Mercury concentrations were reduced to below USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person prior to USEPA, START, and ERRS demobilization.

On December 22, 2014, USEPA and START screened personal belongings of residents at N Artesian prior to them relocating for removal activities. The personal belongings of residents at S Central Park were screened on December 23, 2014, prior to them relocating.

From December 23 through 24, 2014, USEPA, START, and ERRS performed removal action activities at the N Artesian Ave residence. Headspace readings were collected from all items removed from the property. ERRS mobilized a mercury vacuum in an attempt to remove freestanding mercury contamination in the kitchen, bathroom, and living room. An application of HgX was applied to areas with elevated mercury vapor concentrations. Following the HgX application the house was heated to over 100 degrees F and then vented. This heating venting cycle continued for the majority of the day. Mercury concentrations continued to increase after the room equilibrated to normal living conditions indicating mercury beads were present.

Additional screening revealed mercury beads and micro mercury beads in the living room, dining room, and kitchen at the N Artesian Ave residence (See Images Section). Molding/trim, floor boards, and linoleum tile were removed where elevated mercury concentrations exist. Headspace readings were collected of items removed from the residence and disposed of per the USEPA/ATSDR action levels. The residents were notified of trip hazards in their property via proper signage.

From December 23 through 24, 2014, USEPA, START, and ERRS completed removal action activities at the South Central Park Ave. residence. Headspace readings were collected from all items removed from the property. ERRS mobilized a mercury vacuum to remove freestanding mercury contaminated debris in Bedroom #3. After vacuuming operations were completed in Bedroom #3 the room was heated then vented to remove residual mercury vapors. Headspace readings were collected of items removed from Bedroom #3 and disposed of per the USEPA/ATSDR action levels. The final mercury screening took place on December 24, 2014. Mercury concentrations were reduced to below USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person prior to USEPA, START, and ERRS demobilization. The residents returned to their residence on December 24, 2014 to resume normal occupancy. Prior to occupancy, a new air filter was installed on the furnace.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Multiple - Ongoing

2.1.4 Progress Metrics

Location	Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
W North	None					
N Mozart	Household item/debris/PPE	Solid	(2) 55-gal drum*			Landfill
N Artesian	Household item/debris/PPE	Solid	(25) polyurethane bags			Landfill
S Central Park	Household item/debris/PPE	Solid	(27) polyurethane bags			Landfill

* = The quantity of drums at N Mozart was erroneously recorded as (6) on Polrep #2. The new number (2) reflects the actual quantity as described.

2.2 Planning Section

2.2.1 Anticipated Activities

On December 26, 2014, USEPA, START, and ERRS will continue removal activities at the N Artesian Residence.

2.2.1.1 Planned Response Activities

See Section 2.2.1

2.2.1.2 Next Steps

Remove remaining mercury in the house

Remediate mercury vapors to a level deemed safe by USEPA and ATSDR

Repair flooring removed to remediate mercury beads and micro mercury beads

2.2.2 Issues

None at this time.

2.3 Logistics Section

Logistics will be provided by ERRS.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have been established as shown below.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$50,000.00	\$11,846.70	\$38,153.30	76.31%
TAT/START	\$30,000.00	\$13,439.00	\$16,561.00	55.20%
Intramural Costs				
Total Site Costs	\$80,000.00	\$25,285.70	\$54,714.30	68.39%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response. A health and safety plan was generated and signed by appropriate site personnel. Health and Safety briefings were conducted daily during site operations.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department
Agency for Toxic Substance and Disease Control
Chicago Department of Public Health
Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
EPA	OSC	1
Tetra Tech	START	2
ER	ERRS	5

5. Definition of Terms

CHD = Chicago Health Department

ng/m3 = nanogram per meters cubed

START = Superfund Assessment and Response Team

ATSDR = Agency for Toxic Substances and Disease Registry

ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

Please find additional information on the UEPA OSC Website:

http://www.epaosc.org/site/site_profile.aspx?site_id=9672

6.2 Reporting Schedule

The OSC will issue an additional Polrep on a date to be determined.

7. Situational Reference Materials

Please refer to the Joint EPA / ATSDR Chemical Specific Health Consultation for Action Levels for Elemental Mercury Spills:

http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #4
Mozart Street Mercury Spill

Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

To: Mark Johnson, ATSDR
Sam Borries, U.S. EPA
Jason El-Zein, U.S. EPA
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Valencia Darby, U.S. DOI
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Ramon Mendoza, USEPA
Charles Rodriguez, USEPA
Luis Oviedo, USEPA

From: Verneta Simon / Stavros Emmanouil, OSCs

Date: 12/27/2014

Reporting Period: 12/25/14-12/27/14

1. Introduction

1.1 Background

Site Number:	C55F	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	12/15/2014	Start Date:	12/15/2015

Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification: Complete
FPN#:	Reimbursable Account #:

1.1.1 Incident Category

CERCLA Emergency Response. Mercury spill clean-up at one church and three residences.

1.1.2 Site Description

From December 12, 2014 to December 24, 2014 EPA and START mobilized to a total of four City of Chicago locations to investigate suspected mercury contamination at the request of the Chicago Department of Public Health.

1.1.2.1 Location

Two of the sites are located south of the Logan Square neighborhood (N Mozart St and W North Ave), one site is located in the Wicker Park neighborhood (N Artesian Ave), and one site is located in the North Lawndale neighborhood (S Central Park Ave) in Chicago, Illinois. In general, each area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry (ATSDR), the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Refer to Polrep 1 and Polrep 2 for activities prior to December 19, 2014. USEPA and START conducted final assessments at S Central Park Ave on December 23 and 24, 2014. USEPA and START conducted an additional assessment at N Artesian Ave on December 24, 2014. The final and additional assessment results are summarized in the Tables below. USEPA and START did not observe the presence of beads of mercury at the S Central Park Ave location but did observe mercury beads at the N Artesian Ave location.

START Final Mercury Vapor Screening Results Residence on December 23, 2014 S Central Park Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry	480	411	70
Living Room	342	471	
Downstairs Hallway	491	502	
Downstairs Closet	351	377	
Utility Room	421	413	
Dining Area	471	511	
Kitchen	444	521	
Stairwell	429	531	
1 st Bedroom	502	341	
2 nd Bedroom	493	622	
3 rd Bedroom	300	542	
Upstairs Hallway	507	521	
Upstairs Closet	515	686	
Downstairs Bathroom	541	513	

Upstairs Bathroom	512	522	
-------------------	-----	-----	--

Final confirmation readings were collected on December 24, 2014; BZ ranged from 482 ng/m3 to 657 ng/m3 throughout the house, Floor readings ranged from 241 ng/m3 to 402 ng/m3 throughout the house.

START Final Mercury Vapor Screening Results
Residence on December 27, 2014
N Artesian Ave., Chicago, IL

Location	BZ (ng/m3)	Floor (ng/m3)	Temperature (°F)
Initial Entry/Foyer	261	--	79
Living Room	550	274	
Dining Room	562	436	
1 st Bedroom	541	421	
Kitchen	609	586	
Bathroom	644	692	
2 nd Bedroom	632	347	

* Living Room readings were collected from beneath the removed flooring.

Notes: The basement was screened and was reported below the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

Notes:

- = No readings taken

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m3 = nanograms per cubic meter

Readings observed with a Lumex 915M Mercury Analyzer

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On December 12, 2014 USEPA and START responded to a City of Chicago Department of Public Health (CDPH) request for assistance in response to a mercury spill at Clemente High School. The individual potentially responsible for the spill also showed and handled mercury at San Lucas Church (W North Street) and a residence on N Mozart St. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

On December 19, 2014 USEPA and START responded to another CDPH request for assistance involving the origin of the mercury for the Clemente High School mercury spill. This request included an additional two residences (N Artesian Ave and S Central Park Ave) where mercury was handled. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

A total of three residences and one Church are included in the Mozart St mercury spill.

2.1.2 Response Actions to Date

On December 22, 2014, USEPA and START screened personal belongings of residents at N Artesian prior to them relocating for removal activities.

On December 23, 24, 26, & 27, 2014, USEPA, START, and ERRS performed removal action activities at the N Artesian Ave residence. Headspace readings were collected from all items removed from the property. ERRS mobilized a mercury vacuum to remove freestanding mercury contamination in the kitchen, bathroom, and living room. An application of HgX was applied to areas with elevated mercury vapor concentrations. Following the HgX application the house was heated to over 100 degrees F and then vented. This heating venting cycle continued for the majority of the day. Mercury concentrations continued to increase after the room equilibrated to normal living conditions indicating mercury beads were present.

Additional screening revealed mercury beads and micro mercury beads in the living room, dining room, and kitchen at the N Artesian Ave residence (See Images Section). Molding/trim, floor boards, and linoleum tile

were removed where elevated mercury concentrations exist. Due to exposed subfloor boards, the basement was screened and was reported below the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person. Headspace readings were collected of items removed from the residence and disposed of per the USEPA/ATSDR action levels. Approximately 75% of the flooring in the living room and 50% of the flooring in the dining room was removed during mercury bead chasing activities. The residents were notified of trip hazards in their property via proper signage. On December 27, 2014, a flooring contractor hired by ERRS conducted flooring repair operations. The cutout portions of the flooring was replaced and vinyl tile was installed in the living room, dining room, and kitchen (See Images Section). After the flooring re-installation activities were complete, the temperature of the residence was raised and final screenings were recorded. The residents resumed normal occupancy.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Multiple - Ongoing

2.1.4 Progress Metrics

Location	Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
W North	None					
N Mozart	Household item/debris/PPE	Solid	(2) 55-gal drum*			Landfill
N Artesian	Household item/debris/PPE	Solid	(47) polyurethane bags			Landfill
S Central Park	Household item/debris/PPE	Solid	(27) polyurethane bags			Landfill

* = The quantity of drums at N Mozart was erroneously recorded as (6) on Polrep #2. The new number (2) reflects the actual quantity as described.

2.2 Planning Section

2.2.1 Anticipated Activities

None at this time.

2.2.1.1 Planned Response Activities

None at this time.

2.2.1.2 Next Steps

None at this time.

2.2.2 Issues

None at this time.

2.3 Logistics Section

Logistics will be provided by ERRS.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have been established as shown below.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$50,000.00	\$17,388.96	\$32,611.04	65.22%
TAT/START	\$30,000.00	\$13,439.00	\$16,561.00	55.20%

Intramural Costs				
Total Site Costs	\$80,000.00	\$30,827.96	\$49,172.04	61.47%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response. A health and safety plan was generated and signed by appropriate site personnel. Health and Safety briefings were conducted daily during site operations.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department
Agency for Toxic Substance and Disease Control
Chicago Department of Public Health
Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
EPA	OSC	1
Tetra Tech	START	1
ER	ERRS	5

5. Definition of Terms

CHD = Chicago Health Department
ng/m3 = nanogram per meters cubed
START = Superfund Assessment and Response Team
ATSDR =Agency for Toxic Substances and Disease Registry
ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

Please find additional information on the UEPA OSC Website:

http://www.epaossc.org/site/site_profile.aspx?site_id=9672

6.2 Reporting Schedule

The OSC will issue an additional Polrep on a date to be determined.

7. Situational Reference Materials

Please refer to the Joint EPA / ATSDR Chemical Specific Health Consultation for Action Levels for Elemental Mercury Spills:

http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Mozart Street Mercury Spill - Removal Polrep
Final Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #5**
Final
Mozart Street Mercury Spill

Chicago, IL
Latitude: 41.9023033 Longitude: -87.6869188

To: Mark Johnson, ATSDR
Sam Borries, U.S. EPA
Jason El-Zein, U.S. EPA
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Valencia Darby, U.S. DOI
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Matt Mankowski, U.S. EPA
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Thomas Kenney, USEPA ORC
Lance Summers, Tetra Tech
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Robert Kondreck, Tetra Tech
Alexis Cain, USEPA
Ramon Mendoza, USEPA
Charles Rodriguez, USEPA
Luis Oviedo, USEPA

From: Verneta Simon / Stavros Emmanouil, OSCs
Date: 2/24/2015
Reporting Period: 12/28/14 to 2/24/15

1. Introduction

1.1 Background

Site Number:	C55F	Contract Number:	
D.O. Number:		Action Memo Date:	
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	12/15/2014	Start Date:	12/15/2015
Demob Date:	2/10/2015	Completion Date:	2/10/2015
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	Complete
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

CERCLA Emergency Response. Mercury spill clean-up at one church and three residences.

1.1.2 Site Description

From December 12, 2014 through December 31, 2014, and on February 10, 2015 EPA and START mobilized to a total of four City of Chicago locations to investigate suspected mercury contamination at the request of the Chicago Department of Public Health.

1.1.2.1 Location

Two of the sites are located south of the Logan Square neighborhood (N Mozart St and W North Ave), one site is located in the Wicker Park neighborhood (N Artesian Ave), and one site is located in the North Lawndale neighborhood (S Central Park Ave) in Chicago, Illinois. In general, each area is a mix of multi-story single-to multi-family homes along with apartment buildings.

1.1.2.2 Description of Threat

Unknown volume of elemental mercury. According to the Agency for Toxic Substances and Disease Registry (ATSDR), the nervous system is sensitive to metallic mercury. Exposure to very high levels of metallic mercury vapor can cause brain, kidney, and lung damage and may seriously harm a developing fetus. Exposure to mercury vapor concentrations high enough to produce such serious effects might also cause coughing, chest pains, nausea, vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation. Exposure to lower levels of airborne mercury for prolonged periods of time would

produce more subtle effects, such as irritability, sleep disturbances, excessive shyness, tremors, coordination problems, changes in vision or hearing, and memory problems

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Refer to Polrep 1 through Polrep 4 for activities prior to December 27, 2014. USEPA and START conducted final assessments at N Mozart Street on December 30 and 31, 2014, and February 10, 2015. The final assessment result conducted on February 10, 2015 is summarized in the Table below.

START Final Mercury Vapor Screening Results Residence on February 10, 2015 N Mozart St., Chicago, IL

Location	BZ (ng/m ³)	Floor (ng/m ³)	Temperature (°F)
Initial Entry	55	--	68
Basement Sitting Room	61	--	
Basement Laundry	94	384	

Mercury vapor exceeded 1,000 ng/m³ immediately above the laundry room drain on December 30 and 31, 2014. However mercury vapors in the breathing zone were below 300 ng/m³ on December 30 and 31, 2014.

Notes:

- = No readings taken

°F = Degrees Fahrenheit

BZ = Breathing Zone

ng/m³ = nanograms per cubic meter

Readings observed with a Lumex 915M Mercury Analyzer

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On December 12, 2014 USEPA and START responded to a City of Chicago Department of Public Health (CDPH) request for assistance in response to a mercury spill at Clemente High School. The individual potentially responsible for the spill also showed and handled mercury at San Lucas Church (W North Street) and a residence on N Mozart St. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

On December 19, 2014 USEPA and START responded to another CDPH request for assistance involving the origin of the mercury for the Clemente High School mercury spill. This request included an additional two residences (N Artesian Ave and S Central Park Ave) where mercury was handled. Mercury screening levels at both locations were above the USEPA/ATSDR recommended action level for normal occupancy for the most sensitive person.

A total of three residences and one Church are included in the Mozart St mercury spill.

2.1.2 Response Actions to Date

Refer to Polrep 1 through 4 for activities prior to December 27, 2014.

On December 30, 2014, USEPA and START assessed mercury vapors in the basement laundry room drain at N Mozart St. The previous mercury assessment conducted on December 19, 2014 indicated mercury vapor below 1,000 ng/m³ in the breathing zone and floor throughout the house with the exception the laundry room drain. The mercury vapors immediately above the drain on December 30, 2014 was 2,248 ng/m³.

On December 31, 2014, USEPA and START returned to the N Mozart St residence to confirm elevated mercury vapors in the basement laundry room drain. Mercury vapors decreased to 1,084 ng/m³ immediately above the drain. Mercury vapors were 830 ng/m³ six inches above the laundry room drain.

On February 10, 2015, USEPA and START returned to the N Mozart Street residence to confirm elevated mercury vapors in the basement laundry room drain. Mercury vapors decreased to 384 ng/m³ immediately above the laundry room drain. Mercury vapors in the breathing zone in the laundry room were below 100 ng/m³.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

Multiple - Ongoing

2.1.4 Progress Metrics

Location	Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal
W North	None					
N Mozart	Household item/debris/PPE	Solid	(2) 55-gallon drum		Non-hazardous	WM Grayslake, IL
N Artesian	Household item/debris/PPE	Solid	(47) polyurethane bags (1) container with recovered mercury	14221567JJK (Hazardous)	Multiple	Multiple
S Central Park	Household item/debris/PPE	Solid	(27) polyurethane bags (1) container with mercury	14221567JJK (Hazardous)	Multiple	Multiple

Notes:

Multiple = Multiple treatment of waste; non-hazardous waste disposed of at Waste Management facility in Grayslake, IL; hazardous mercury waste was delivered to Waste Management in Union Grove, WI.

WM = Waste Management

Regional Metrics

This is an Integrated River Assessment. The numbers should overlap.	Miles of river systems cleaned and/or restored	N/A
	Cubic yards of contaminated sediments removed and/or capped	N/A
	Gallons of oil/water recovered	N/A
	Acres of soil/sediment cleaned up in floodplains and riverbanks	N/A
Stand Alone Assessment	Number of contaminated residential yards cleaned up	N/A
	Number of workers on site	7
Contaminant(s) of Concern	Mercury	

Oil Response Tracking

Estimated volume	Initial amount released	N/A
	Final amount collected	N/A
CANAPS Info	FPN Ceiling Amount	N/A
	FPN Number	N/A
	Body of Water affected	N/A

Administrative and Logistical Factors (Place X where applicable)

Precedent-Setting HQ Consultations (e.g., fracking, asbestos)	Community challenges or high involvement	Radiological
More than one PRP	Endangered Species Act / Essential Fish Habitat issues	Explosives
AOC	Historic preservation issues	X Residential impacts
UAO	NPL site	Relocation
DOJ involved	Remote location	Drinking water impacted
Criminal Investigation Division involved	Extreme weather or abnormal field season	X Environmental justice
Tribal consultation or coordination or other issues	Congressional involvement	High media interest
Statutory Exemption for \$2 Million	Statutory Exemption for 1 Year	Active fire present
X Hazmat Entry Conducted – Level A, B or C	Incident or Unified Command established	Actual air release (not threatened)

Green Metrics

Metric	Amount	Units
Diesel Fuel Used	0	gallons
Unleaded Fuel Used	0	gallons
Alternative/E-85 Fuel Used	0	gallons
Electricity from Coal	0	kW
Electricity from solar/wind	0	kW
Electricity from grid/mix	0	kW
Propane	0	gallons
Solid waste used	0	pounds
Solid waste recycled	0	pounds
Cardboard & Plastic Recycled	0	pounds
Plastics Recycled	0	pounds
Aluminum Recycled	0	pounds

2.2 Planning Section

2.2.1 Anticipated Activities

None at this time. Removal Action has been completed.

2.2.1.1 Planned Response Activities

None at this time. Removal Action has been completed.

2.2.1.2 Next Steps

None at this time. Removal Action has been completed, however the Action Memo still needs to be drafted and signed off.

2.2.2 Issues

None.

2.3 Logistics Section

None.

2.4 Finance Section

2.4.1 Narrative

Finance ceilings and costs for this site have been established as shown below.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$50,000.00	\$31,637.69	\$18,362.31	36.72%
TAT/START	\$30,000.00	\$21,881.42	\$8,118.58	27.06%
Intramural Costs				
Total Site Costs	\$80,000.00	\$53,519.11	\$26,480.89	33.10%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

EPA OSC is the on-site Safety Officer for the response. A health and safety plan was generated and signed by appropriate site personnel. Health and Safety briefings were conducted daily during site operations.

2.5.2 Liaison Officer

NA

2.5.3 Information Officer

NA

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

Chicago Fire Department
Agency for Toxic Substance and Disease Control
Chicago Department of Public Health
Chicago School Representatives

4. Personnel On Site

Organization	Position	# Personnel
EPA	OSC & Community Involvement Coordinator	2
Tetra Tech	START	1
ER	ERRS	0

5. Definition of Terms

CHD = Chicago Health Department
ng/m3 = nanogram per meters cubed
START = Superfund Assessment and Response Team
ATSDR = Agency for Toxic Substances and Disease Registry
ERRS= Emergency and Rapid Response Services

6. Additional sources of information

6.1 Internet location of additional information/report

Please find additional information on the UEPA OSC Website:
http://www.epaosc.org/site/site_profile.aspx?site_id=9672

6.2 Reporting Schedule

The OSC will issue an additional Polrep on a date to be determined.

7. Situational Reference Materials

Please refer to the Joint EPA / ATSDR Chemical Specific Health Consultation for Action Levels for Elemental Mercury Spills:

http://www.atsdr.cdc.gov/emergency_response/Action_Levels_for_Elemental_Mercury_Spills_2012.pdf

APPENDIX F
WASTE MANIFEST

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number CESQG	2. Page 1 of 1	3. Emergency Response Phone 312-353-2318	4. Manifest Tracking Number 014221567 JJK	
5. Generator's Name and Mailing Address USEPA Region 5 77 West Jackson Blvd Chicago, IL 60604			Generator's Site Address (if different than mailing address) 1147 North Western Chicago, Illinois 60622			
6. Transporter 1 Company Name SET Environmental			U.S. EPA ID Number ILD981951236			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address WM Mercury Waste Inc. 21211 Durand Ave. Union Grove, WI 53182			U.S. EPA ID Number WIR 000 000 356			
Facility's Phone:						
GENERATOR	9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol
			No.	Type		
	X	1. RD, NA3077, Hazardous waste, solid, N.O.S., 9, P001 (mercury) ER6 #171	001	DF	005	G
		2.				
		3.				
		4.				
13. Waste Codes D009						
14. Special Handling Instructions and Additional Information L.I. Debris WI 101895						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in full compliance with proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Elizabeth Nightingale						
Signature <i>[Signature]</i> On behalf of U.S. EPA						
Month Day Year 1 / 12 / 15						
INTL	16. International Shipments <input checked="" type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:					
Transporter signature (for exports only):						
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name STEVEN S. HART		Signature <i>[Signature]</i>		Month Day Year 1 / 12 / 15	
Transporter 2 Printed/Typed Name		Signature		Month Day Year		
DESIGNATED FACILITY	18. Discrepancy					
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
	18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number:					
	Facility's Phone:					
	18c. Signature of Alternate Facility (or Generator) Month Day Year					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. H010		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a						
Printed/Typed Name OBOMWI J. RUZMAN		Signature <i>[Signature]</i>		Month Day Year 10 / 12 / 15		